

ABSTRACT OF THE INVENTION:

A device for analyzing immunoassays with a liquid assay medium includes a vessel for holding the assay medium. The vessel has a base comprised of a solid body having a first side wall and a top surface forming a boundary surface of the solid body. First reaction agents are dissolved in the assay medium in the vessel and are labeled with a luminophore or different luminophores and second reaction agents are bonded to the boundary surface within a boundary layer of the assay medium. A transmitter for emitting light rays is arranged so that the light rays are coupled into the base of the vessel via the first side wall and conducted at the total reflection angle to the boundary surface so that luminophore-labeled first reaction agents that are bonded to the second reaction agents are optically excited by at least some of the light rays and emit fluorescent and/or phosphorescent rays. A receiver is positioned for quantitatively detecting the fluorescent rays and/or phosphorescent rays.

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DC2DOCS195801